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ANNUAL SUMMARY

PART B  
SNOWFALL

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# INDIA WEATHER REVIEW, 1948

## ANNUAL SUMMARY.

### PART B.

### SNOWFALL.

This part contains a summary of the reports of snowfall in the mountain regions to the north of India. These reports are collected by local officers from the local residents, headmen of villages or from travellers who have passed through the region and are then transmitted to this office.

The amount of snowfall is usually measured by finding the depth of undisturbed snow lying on the ground. The measurements are given in feet and inches. At places provided with raingauges the snow collected in the gauge is melted and measured as rain. This is indicated in the text and the measurements are given in inches and cents.

#### *Cold Weather Period, January and February*

##### I.—KASHMIR

*Skardu.*—No reports were received.

*Dras.*—The available data indicate that, at Dras proper, snow existed to a depth of 4 feet in January and 3 feet in February. The accumulations on the Zojilla pass and the well known peaks and ranges in the area were about 6 feet at the end of each of the months. Snowfall during the period was about normal and the accumulations below normal.

*Srinagar.*—There were ten light to moderate falls of snow in January and thirteen in February on the surrounding mountain range (Pir-Panjal) and in the valley. The total snowfall in the Central Observatory when melted and measured as water amounted to 0.90 " in January and 3.21 " in February. The heaviest fall (0.45") in January occurred on the 20th. In February, the heaviest fall (1.08") was recorded on the 2nd when wheeled traffic was partly suspended and minor damages were caused to telegraph and telephone lines. The accumulations on the Pir-Panjal range at the end of January were reported to be 6 to 9 ft. In February, the accumulations were above normal. On the whole, snowfall was nearly normal in January and much above normal in February.

*Kargil.*—There were four falls of snow in January. The depth of snow was 6 feet on the peaks and 1½ feet on the ground. The accumulations on the well known peaks and passes at the end of January were about 6 feet. The falls were below the average. No report was received for February.

*Sonamarg.*—Snow fell on five days each in January and February. The snow descended on the well known passes of Zojilla and Nichaney during the season. The depth of the falls varied from 1" to 14" in January and 2" to 22" in February. The accumulations at the end of each of the months were 6 feet on the ground and 7-8 feet on the well known passes. The snowfall during the period was about normal; while the accumulations were below normal.

*Leh.*—Snow fell on four days in January and eight days in February. Some of the falls during February were fairly heavy and the snow-line was well below the station level of 11,500 feet. The accumulations of snow on the passes were about 5 feet at the end of January and 3 feet at the end of February. At the end of the period about an inch of snow existed around the station. Snowfall during the period was below the average.

##### II—EAST PUNJAB

*Chamba.*—1 Pangri Range—Snow fell on ten days in January to a total depth of 4' 9". The depth of the individual falls varied from 1" to 13". In February, there were twelve falls amounting to a total depth of about 10 feet. The depth of snow associated with the heaviest fall was 3' 4". The accumulations measured at Kilar (8400 feet) were 2' 5" at the end of January and 3' 8" at the end of February. The falls during and the accumulations at the end of the period were normal.

2. Bhandal Range—One snowstorm occurred at Bhandal proper and two at higher elevations in the month of January. In February there were four falls. The snow line descended to 4000 feet in one of the snowstorms. No accumulations existed at Bhandal proper at the end of the period. In the neighbouring passes, however, accumulations of depth about 3 feet existed at the end of January. At Padri Pass the accumulation of snow at the end of February was about 7 feet, which was below normal.

*Kulu (Kangra District).*—Information regarding snowfalls in the Siraj and Ku'u Tahsils is contained in the following table:—

					January	February
					Feet	Feet
<i>Siraj Tehsil</i>						
Thirath	..	..	..	..	3½	5½
Plach	..	..	..	..	3	5
Bashlata	..	..	..	..	3½	4
Sopokon	..	..	..	..	2½	5
Gargarasan	..	..	..	..	3	4½
Banihari	..	..	..	..	3	4½
Sakiran	..	..	..	..	3	4
Jalori	..	..	..	..	3	3
Raghopur	..	..	..	..	2½	3½
Nonhol	..	..	..	..	2½	1½
Ramgarh	..	..	..	..	2½	½
Bhakkar	..	..	..	..	2½	2½
Dundku	..	..	..	..	2½	2½

					January	February	Locality					January	February
					Feet	Feet						Feet	Feet
Haigon	..	..	..	..	3	3	Nubedhura	..	..	..	..	15	20
Chul	..	..	..	..	3½	3½	Kotela Hill	..	..	..	..	..	4
Horikana	..	..	..	..	4½	5½	Kotela Valley	..	..	..	..	..	20 to 30
<i>Kulu Tehsil</i>							Bankatia	..	..	..	..	..	15 to 30
Hamta	..	..	..	..	13	17	Pinder Valley	..	..	..	..	..	50 to 60
Rohlung	..	..	..	..	11	15	Nandakhat	..	..	..	..	..	30 to 40
Barshai	..	..	..	..	6	8	Sunderdhunga Valley	..	..	..	..	..	35 to 45
Bojhardher	..	..	..	..	9	9	Sunderdhunga Peak	..	..	..	..	..	25 to 30
Chandukani	..	..	..	..	6½	8							
Lohri Achri	..	..	..	..	5	7							
Sari	..	..	..	..	3	6½							
Bhobu	..	..	..	..	1	5							
Bashbozi	..	..	..	..	3	4							
Majghong	..	..	..	..	1	3							

*Kilba (Simla District)*—Snow fell in the second fortnight of January, the snowline descending to 6800 feet above sea level. In February it snowed practically through out the month, the total snowfalls at Kilba, Sangla and Purbani being 1' 1", 7' 3" and 2' 11" respectively. The snowline descended to 5400 feet above sea level. Throughout the period, all the passes were blocked. The falls in January were below normal while in February they were above normal.

### III—THE UNITED PROVINCES

(A) *Garhwal*.—Snow fell on four days in January and two days in February. There were ½' to 3' depth of accumulations in January and ¼' to 8' at the high elevations (Paukhandamalla) in February. The snowline descended to about 4,000 feet m.s.l. in January. The falls were below normal in January and normal in February.

(B) *Almora*.—The following table gives the estimated amounts of the falls and accumulations of snow during the two months :—

Locality					January	February
					Feet	Feet
<i>Falls</i>						
Malla Dama	..	..	..	..	½	3½
Malla Johar	..	..	..	..	3	7½
Chaudans	..	..	..	..	14	..
Byans	..	..	..	..	4 to 7	6 to 11
Malla Dampur	..	..	..	..	..	4½
<i>Accumulations</i>						
Lipu	..	..	..	..	9	8
Lam, ya	..	..	..	..	15	17

The falls during the period were below normal in all the patties but the accumulations at the end of the period were however, nearly normal.

(c) *Muktesar*.—No report was received for January. Light snow fell on two days in the first week of February. The total amount of snow when melted and measured as water amounted to 40 cents. The falls were reported to be much below the average of previous years.

### Hot Weather Period—March to May

#### I—KASHMIR

*Skardu*.—No report was received.

*Dras*.—It snowed heavily at Dras during March and April. At the end of March, 7 ft. of snow existed on the ground and about 12 ft. on the Zojilla peak and the other well-known peaks of the locality. Towards the end of April about 2 ft. of snow accumulations existed at the station and about 5 ft. on the passes and peaks.

*Srinagar*.—During March, eight moderate to heavy falls of snow were observed on the surrounding mountain range of Pir Panjal while it snowed on five occasions in the valley. According to reports, the snowfall of the month was responsible for damage to buildings and other old construction, suspension of communication, electrical current and vehicular traffic and road breaches throughout the state. Light to moderate falls of snow were observed on 8 days in April and on 4 days in May. The depth of each of the falls did not exceed 6 inches in April and 2 inches in May. The falls were above normal. The snow accumulations on the Pir Panjal range were 12 to 15 ft. at the end of March and of considerable depth at the end of April and May. These were above normal.

*Kargil*.—No reports were received for March and May and no snowfalls occurred in April. At the end of April about 4 ft. of accumulations existed on the well-known peaks and these were above normal.

*Sonamarg*.—Snow fell on three days in March, on two days in April and on three days in May amounting to depths of 5' 1", 1 ft. 1½ inches and 3 inches respectively. The accumulations at the station proper were 7 ft., 2½ ft. and nil at the end of each of the three months while those on the Zojilla and Nichany passes were reported to be about 10 ft., 4½ ft. and 3 ft. respectively. The falls in March were above normal and those of April and May were nearly normal. The accumulations were about the average.

*Leh.*—Snow fell on six days in March to a total depth of 12½ inches. The falls were above normal. The snowline at the end of the month was at 12,000 ft. The accumulations at the end of March on the passes were about 12 ft. No reports were received for April and May.

## II.—THE EAST PUNJAB

*Chamba.*—Pangi Range—Snow fell on 10 days in March to a total depth of 7 feet 10 inches. The accumulations on the passes could not be estimated as these were closed. At Kilar (8400') the depth of snow accumulations was 2 ft. 10 in. at the end of March. The falls were above normal. It is reported that much damage was caused to fields, houses and forests owing to avalanches and snow slides.

*Bhanda Range.*—There were 4 falls of snow in March at Bhanda proper. The total depth of the falls which varied from ½" to 1½" was 1 ft. 9 inches. The accumulations at the end of the month were nil at Bhanda proper and about 10 ft. at Padri Pass. The falls during and the accumulations at the end of the month were above normal. No reports were received for April.

A few light falls occurred in May over the high peaks and passes above 10,000 ft. a.s. l. and the accumulations on the passes and peaks at the end of the month were 6 to 8 ft. The accumulations were reported to be below normal.

*Kangra.*—Information regarding the snowfall in the Siraj and Kulu tehsils is given in the following statement.

	March	April	May
<i>Siraj Tehsil</i>	Feet	Feet	Feet
Thirath .. .. .	8	1	Nil
Plach .. .. .	6	1	"
Bashlata .. .. .	7	2	"
Sopokon .. .. .	8	2	"
Gargarasan .. .. .	5	1	"
Banihari .. .. .	6	2	"
Sakiran .. .. .	5	½	"
Jalori .. .. .	5	2	"
Raghopur .. .. .	6	4	"
Nonhol .. .. .	2	1	"
Ramgarh .. .. .	2	½	"
Bhakkar .. .. .	3	½	"
Dundku .. .. .	3	½	"
Halgon .. .. .	4	1	"
Chul .. .. .	1	1	"
Horikura .. .. .	10	3	"

	March	April	May
	Feet	Feet	Feet
<i>Kulu Tehsil</i>			
Hamta .. .. .	24	14	7
Rohtang .. .. .	22½	12	6
Barshai .. .. .	14	7	3
Bojhardhar .. .. .	12	6	2½
Chanderkani .. .. .	13	6	3
Lohri Achri .. .. .	10	4	2
Sari .. .. .	9	4	2
Bhobu .. .. .	6	3	1
Bashbozi .. .. .	4	2	½
Majghonj .. .. .	3	1	..

*Kilba (Simla Dist.)*—Snow fell on about 15 days in March and on 2-3 days in April. The total snowfall in March at Kilba, Sangla and Purbani was 1' 5", 9' 8" and 6' 8" respectively. At elevations above 7,500 ft. a.s. l. it snowed throughout March and the snowline descended to 5,400 ft. a.s. l. The snowline descended to 8,300 ft. in April and 10,600 ft. in May. All the passes were closed to traffic throughout the period, except Buran and Rupan which were open during May. The falls were above the average in March and April and below the average in May.

## III.—UNITED PROVINCES

*Garhwal.*—There were two falls of snow in March the depth of snow varying from 1" to 3' on the higher altitudes. No snow fell in April. During May also there was no snowfall at the station proper, but on the high peaks and passes above 10,500 ft. snow fell to a depth of 3". The accumulations of snow on the 20th May were about 2 ft. on the high peaks and about 8 ft. on the passes and these were above normal.

*Almora.*—The following table gives the amount of falls during and the accumulations at the end of each of the months.

Locality	March	April	May
<i>Falls</i>	Feet	Feet	Feet
Malla Johar .. .. .	..	13	Nil
Malla Darna .. .. .	4	½	½
Malla Dargpur .. .. .	8	5	5
Byans .. .. .	9 to 15	6	6 to 12
Chaudans .. .. .	..	..	1

## III.—THE UNITED PROVINCES

*Garhwal*.—There were four falls of snow during October, three in November and eleven during December on the higher altitudes. The depths of the falls were about 2 ft. at the end of October, 7 ft. in November and 10 ft. at the end of December. These were also reported to be the amount of accumulations at the end of the respective months.

*Almora*.—The following table gives the falls during and the accumulations at the end of October, November and December as estimated by the Patwaries. The falls and accumulations were above the average in October and December and below normal in November.

Locality	October	November	December
	Feet	Feet	Feet
<i>Falls</i>			
Malla Darma .. .. .	2	1	1
Malla Danpur .. .. .	1	1	15
Malla Johar .. .. .	3	..	..
Chaudans .. .. .	11	Very little	6
Byans .. .. .	5	2	4
<i>Accumulations</i>			
Katila Hill .. .. .	..	6	12
Katila Valley .. .. .	..	10	25
Kafni Hill .. .. .	7	6	30
Kafni Valley .. .. .	20	27	45
Bankatia .. .. .	10	20	30
Pinder Valley .. .. .	35	55	70
Pinder Peak .. .. .	250	150	100
Nandakhat .. .. .	15	30	85
Sunder Dhunga Valley .. .. .	40	60	70
Sunder Dhunga Peak .. .. .	20	125	55
Musoor Ghaty .. .. .	20	..	25
Limpia .. .. .	15	7	7
Nibedhura .. .. .	..	20	25

N.B.—It is not possible to adopt a single classification of seasons which will be satisfactory for the whole of India. The classification adopted in this publication is, however, considered as the most satisfactory one and the least open to objection especially from the point of view of rainfall.

Locality	October	November	December
	Feet	Feet	Feet
Chaudans .. .. .	..	14	..
Lipu .. .. .	..	..	5
Hosling .. .. .	..	..	3

## IV.—ASSAM

*Baliapara Frontier Tract*.—There was exceptionally heavy snowfall on the higher ranges such as Se-La, Orko-La, Riso-La, Manda-La and Tse-La in October. All the passes were temporarily blocked. There was no snowfall on the lower ranges during November and December but the higher ranges and passes experienced average snowfall during these two months.

No snowfalls were reported from the parts of the Himalayan ranges bordering the Districts of Kamrup, Mishmi and Abor Hills during November and December.

*Summary*

*Cold Weather Period, January and February*.—Snowfall during the period was about normal in Kashmir and East Punjab and below normal in the United Provinces. The accumulations at the end of the period were generally below normal.

*Hot Weather Period, March to May*.—Snowfall was generally above the average. The accumulations were above the average in Kashmir and the United Provinces and below in the East Punjab.

*South-West Monsoon Period, June and July*.—Snowfalls were below normal in Kashmir and normal in the East Punjab and the United Provinces. The accumulations were about normal in Kashmir and the United Provinces and below normal in the East Punjab.

*South-West Monsoon Period, August and September*.—Snow fall during this period was, as usual, confined to higher elevations. The falls in the United Provinces, however, were reported to be above normal.

*Retreating Monsoon Period, October to December*.—The falls as well as the accumulations were generally either normal or in slight excess.